

# Applied Physics A

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# PHYSICS AND ASTRONOMY CLASSIFICATION SCHEME (PACS)

Shortened version for use in classifying papers for Applied Physics

## General

- 02 Mathematical methods in physics
- 06 Measurement science and metrology
- 07 Specific instrumentation
  - 07.60 Optical instruments and techniques, detection of radiation
  - 07.65 Optical spectroscopy and spectrometers
  - 07.75 Mass spectrometers and mass-spectroscopy techniques
  - 07.80 Electron and ion microscopes and spectrometers; techniques
  - 07.85 X-ray and gamma-ray instruments and techniques

## Atomic and molecular physics

- 32 Atomic spectra and interactions with photons
- 33 Molecular spectra and interactions of molecules with photons
- 34 Atomic and molecular collision processes and interactions
- 35 Experimentally derived information on atoms and molecules
- 36 Studies of special atoms and molecules (macro- and polymer molecules, clusters)

## Fundamental areas of phenomenology (including applications)

- 41 Electricity and magnetism
- 42 Optics (see also 78)
  - 42.10 Propagation and transmission in homogeneous media
  - 42.20 Propagation and transmission in inhomogeneous media
  - 42.30 Optical information, image formation and analysis
  - 42.40 Holography
  - 42.50 Quantum optics
  - 42.55 Laser processes
    - C Pumping mechanisms
    - E Molecular gas lasers ( $\text{CO}_2$ , CO,  $\text{N}_2\text{O}$ , formaldehyde)
    - G Excimer lasers
    - H Atomic, ionic, and other gas lasers
    - M Laser action in liquids and organic dyes
    - P Laser action in semiconductors
    - R Laser action in solid-state lasers
    - T Free-electron lasers
  - 42.60 Laser systems and laser-beam applications
  - B Design of specific laser systems
  - D Laser resonators, cavities, and amplifiers
  - E Laser beam deflection and focusing
  - F Laser beam modulation, mode locking, and tuning
- 42.65 Nonlinear optics
- 42.68 Atmospheric optics
- 42.70 Optical materials
- 42.80 Optical devices, techniques, and applications (including fiber and integrated optics)
- 43 Acoustics (see also 62)

## Fluids, plasmas, and electric discharges

- 52 Physics of plasmas and electric discharges

## Condensed matter: structure, mechanical and thermal properties

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  - 61.10 Determination of structures
  - 61.12 Neutron determination of structures
  - 61.14 Electron determination of structures
  - 61.16 Other determination of structures
  - 61.20 Liquid structures
  - 61.30 Liquid crystals
  - 61.40 Amorphous and polymer materials, glasses
  - 61.70 Defects in crystals
  - 61.80 Radiation damage and other irradiation effects
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- 65 Thermal properties of condensed matter
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- 68.65 Layer structures, intercalation compounds, and superlattices: growth, structure, and nonelectronic properties
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